AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A magnetic recording medium comprising:

~~On~~ a non-magnetic substrate~~,~~;

at least a soft magnetic layer~~,~~ formed on the non-magnetic substrate directly or indirectly;

an orientation control film that is formed on the soft magnetic layer and controls the orientation of a film provided directly thereabove~~,~~;

an intermediate film~~,~~ formed on the orientation control film;

a perpendicular magnetic recording film that is formed on the intermediate film and of which ~~the~~ an axis of easy magnetization is generally oriented ~~perpendicular~~ perpendicularly to ~~said~~ the non-magnetic substrate~~,~~; and

a protective film formed on the perpendicular magnetic recording film,

wherein the intermediate film is made of ~~a Co alloy~~ CoCrPtB and has a saturation magnetization (Ms) of at least 20 (emu/cc) and equal to or less than 200 (emu/cc).

2. (currently amended): The magnetic recording medium according to claim 1, wherein the saturation magnetization Ms of the intermediate film is at least 50 (emu/cc) and equal to or less than 150 (emu/cc).

3. (original): The magnetic recording medium according to claim 1, wherein the thickness of the intermediate film is at least 2 nm and equal to or less than 30 nm.

4. (Cancelled)

5. (currently amended): The magnetic recording medium according to ~~claims~~ claim 1, wherein ~~the~~ a total amount of a Cr content and a B content of the intermediate film is at least 23 at % and equal to or less than 35 at %.

6. (currently amended): The magnetic recording medium according to ~~claims~~ claim 1, wherein ~~the~~ a Cr content of the intermediate film is at least 20 at % and equal to or less than 34 at %.

7. (currently amended): The magnetic recording medium according to ~~claims~~ claim 1, wherein ~~the~~ a thickness of an amorphous structure, as ~~the~~ an initial growth portion of the intermediate film, is equal to or less than 1 nm.

8. (currently amended): The magnetic recording medium according to ~~claims~~ claim 1, wherein the orientation control film has an amorphous structure.

9. (Canceled)

10. (currently amended): A method of manufacturing a magnetic recording medium, ~~which comprises~~ comprising the steps of:

forming at least a soft magnetic layer on a non-magnetic substrate directly or indirectly~~,~~;

forming an orientation control film that controls the orientation of a film provided directly thereabove on the soft magnetic layer~~,~~;

forming an intermediate film which is made of CoCrPtB on the orientation control film~~,~~;

forming a perpendicular magnetic recording film on the intermediate film, of which the axis of easy magnetization is generally oriented ~~perpendicular~~ perpendicularly to ~~a~~ the non-magnetic substrate~~,~~; and

forming a protective film~~,~~ on the ~~substrate~~ perpendicular magnetic recording film,

~~while controlling~~ wherein conditions of forming the films are controlled so that ~~the intermediate film is made of a Co alloy and~~ a saturation magnetization Ms of the intermediate film is at least 20 (emu/cc) and equal to or less than 200 (emu/cc).

11. (currently amended): A magnetic read/write apparatus comprising:

the magnetic recording medium of ~~claims~~ claim 1; and

a single pole ~~type~~ head that records information on the magnetic recording medium and reads the information from the magnetic recording medium.

12. (New) The magnetic recording medium according to claim 1, wherein the orientation control film comprises at least one alloy selected from Co alloy, Ni alloy, and Fe alloy.

13. (New) The magnetic recording medium according to claim 1, wherein a permanent magnet film of which magnetization anisotropy is mainly oriented in an in-planar direction is provided between the non-magnetic substrate and the soft magnetic layer.

14. (New) The magnetic recording medium according to claim 13, wherein an undercoat film made of a Cr alloy or a B2 structural material is formed between the non-magnetic substrate and the permanent magnet film.

15. (New) A magnetic recording medium comprising:

a non-magnetic substrate;

at least a soft magnetic layer formed on the non-magnetic substrate directly or indirectly;

an orientation control film that is formed on the soft magnetic layer and controls the orientation of a film provided directly thereabove;

an intermediate film formed on the orientation control film;

a perpendicular magnetic recording film that is formed on the intermediate film and of which an axis of easy magnetization is generally oriented perpendicularly to the non-magnetic substrate; and

a protective film formed on the perpendicular magnetic recording film,

wherein the intermediate film is made of a Co alloy and has a saturation magnetization (Ms) of at least 20 (emu/cc) and equal to or less than 200 (emu/cc), and

the orientation control film has an amorphous structure.

16. (New) The magnetic recording medium according to claim 15, wherein the saturation magnetization Ms of the intermediate film is at least 50 (emu/cc) and equal to or less than 150 (emu/cc).

17. (New) The magnetic recording medium according to claim 15, wherein the thickness of the intermediate film is at least 2 nm and equal to or less than 30 nm.

18. (New) The magnetic recording medium according to claim 15, wherein a total amount of a Cr content and a B content of the intermediate film is at least 23 at % and equal to or less than 35 at %.

19. (New) The magnetic recording medium according to claim 15, wherein a Cr content of the intermediate film is at least 20 at % and equal to or less than 34 at %.

20. (New) The magnetic recording medium according to claim 15, wherein a thickness of an amorphous structure, as an initial growth portion of the intermediate film, is equal to or less than 1 nm.

21. (New) The magnetic recording medium according to claim 15, wherein the orientation control film comprises at least one alloy selected from Co alloy, Ni alloy, and Fe alloy.

22. (New) The magnetic recording medium according to claim 15, wherein a permanent magnet film of which magnetization anisotropy is mainly oriented in an in-planar direction is provided between the non-magnetic substrate and the soft magnetic layer.

23. (New) The magnetic recording medium according to claim 22, wherein an undercoat film made of a Cr alloy or a B2 structural material is formed between the non-magnetic substrate and the permanent magnet film.

24. (New) A method of manufacturing a magnetic recording medium, comprising the steps of:

forming at least a soft magnetic layer on a non-magnetic substrate directly or indirectly;

forming an orientation control film that has an amorphous structure and controls the orientation of a film provided directly thereabove on the soft magnetic layer;

forming an intermediate film which is made of a Co alloy on the orientation control film;

forming a perpendicular magnetic recording film on the intermediate film, of which the axis of easy magnetization is generally oriented perpendicularly to the non-magnetic substrate; and

forming a protective film on the perpendicular magnetic recording film,

wherein conditions of forming the films are controlled so that a saturation magnetization Ms of the intermediate film is at least 20 (emu/cc) and equal to or less than 200 (emu/cc).

25. (New) A magnetic read/write apparatus comprising:

the magnetic recording medium of claim 15; and

a single pole head that records information on the magnetic recording medium and reads the information from the magnetic recording medium.